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ABSTRACT

Eighty-six mother-infant pairs were studied to determine the extent to which maternal and child variables predicted maternal involvement. The infants, ranging in age from 3-36 months, were examined on temperament and developmental status. Maternal characteristics studied were temperament, locus of control, and socioeconomic status. Criterion variables were the amount, quality, and appropriateness of the mother's involvement with her child. Maternal locus of control was found to be the strongest predictor; those mothers who felt some control over their lives were likely to be involved with their handicapped child in warmer, more accepting ways that more closely matched their child's interest and abilities. (JDD)

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MATERNAL AND HANDICAPPED CHILD CHARACTERISTICS ASSOCIATED WITH MATERNAL INVOLVEMENT BEHAVIOR

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Maternal and Handicapped Child Characteristics Associated with
Maternal Involvement Behaviors

Infancy is typically a period of mutual give and take between infants and parents. The behavior of infants with cognitive, motor or sensory delays, however, may place excessive demands on caregivers and provide little enjoyment in return. Handicapped infants may be not only less ready for interaction, but also less responsive to it. State control, for example, may be less optimal and neurological organization may be more tenuous. The interactive cues of handicapped infants may also be less readable due to disturbances of affect resulting from variations in tone and expression.

In the development of mother-child interaction, it is not only the behavior of the infant that is affected by the handicapping condition, but the behavior of the mother as well. When problematic infant behaviors are added to the stress of caregiving, mothers may react with disruptions of normal mother-child interaction patterns. Concern for the infants' physical health may cause parents to treat them as if they were fragile, not initiating interaction as frequently as with a non-handicapped infant. Changed expectations may prevent parents from observing and responding to the infants' cues. Typically, it is the parent who initiates a social overture with the infant, setting the stage for an interactive sequence. This provides an opportunity for the infant to learn the parent's social cues and to develop its own cues in a social context. Loss of this interactive experience in infancy may be difficult to overcome at a later date. For early intervention to be effective, it is essential to identify the behaviors of mother and child that contribute to the understanding of this complex interaction. Research in this area has generally focused on discrete behaviors of mother and child rather than on broader aspects of the interaction. However, it has been suggested that the sensitivity and quality of maternal involvement may be the characteristics of the interaction that are more salient to infant development. For that reason, the overall question posed in this study was to what extent are maternal and child characteristics predictive of the amount, quality and appropriateness of maternal behavior in a playful interaction.

Method

Subjects:

The subjects were 86 mother-infant pairs, receiving home-based intervention, who were participating in a longitudinal research project of the Carolina Institute for Research on Early Education for the Handicapped.

Child Characteristics

	X	SD	R	N
Age	16.7 mths	7.6	3 - 36	86
Cog DQ	60.2	27.8	4 - 113	73
Mot DQ	58.5	26.2	1 - 112	72

First Born - 48%	Female - 43%	Black - 28%
Later Born - 52%	Male - 57%	White - 72%

Maternal Characteristics

Age	26.4 yrs	5.9	16 - 45	82

Marital Status		Employment Status		Education		SES Level	
Married	71%	Unemployed	68%	<Hi Schl	24%	Unskilled	11%
Sep/Div	12%	Part Time	12%	Hi Schl	41%	Skilled/ Semiskill	62%
Unmarr.	17%	Full Time	20%	>Hi Schl	35%	Profess/ Technical	27%

Measures:

The child characteristics examined were temperament and developmental status. Temperament was assessed with the Infant Temperament Questionnaire (Carey & McDevitt, 1978) for infants under 12 months, and with the Toddler Temperament Scale (Fullard, McDevitt & Carey, 1984) for children 12-36 months.

Maternal characteristics examined were temperament, locus of control and SES level. Maternal temperament was assesed with the Adult Temperament Index (Fullard & Megotz, 1983). The Nowicki-Strickland Locus of Control scale was used to assess maternal internal/external locus of control. SES level was establised by the Hollingshead scale. Mother-child interaction was rated with the Parent/Caregiver Interaction Scale (PCIS) (Farran, Kasari, Comfort & Jay, 1984).

Procedure:

Data were collected through the interventionists providing home-based intervention through the PACT teams in the state of North Carolina. Measures completed by the interventionists provided demographic information about the child and family, and assessments of child functioning. Mother-child interaction was rate, using the PCIS, in the context of a home visit which included a 20-30 minute period of observation of mother-child play.

Mothers completed the temperament scales and the measure of locus of control. In order to minimize bias in maternal responding, maternal and child temperament scales were completed six months apart, with the maternal scale being completed at the later date.

Results

The major question addressed in this study focused on the extent to which maternal and child variables predicted maternal involvement assessed during a playful mother-child interaction. Maternal predictor variables were locus of control, temperament type and SES level. Child predictor variables were temperament type and developmental status. Criterion variables were the amount, quality and appropriateness of the mothers involvement with her child. A series of backward stepwise regresion analyses were used to explore the relationships holding the criterion variables steady and varying the predictor variables among maternal variables, child variables, and both maternal and child variables together. The results of testing these models are presented in the tables.

TABLE 2

Child variables alone accounted for an insignificant amount of the variance for both the amount and qualty of maternal behavior; temperment type exerted an influence on appropriateness.

TABLE 3

When maternal variables were used alone, maternal locus of control accounted for a significant amount of the variance for all three criterion variables. The addition of maternal behavior style and SES level added only a small amount to the known variance.

TABLE 4

Maternal locus of control continues to be the strongest predictor when both child and maternal variables are included simultaneously. The addition of other maternal and child variables accounted for a miniscule percentage of the variance for the amount of maternal involvement, and only 6% of the quality and appropriateness.

TABLE 1

Intercorrelations, Means, and Standard Deviations for Predictor and Criterion Variables

Variables	PCIS Approp.	PCIS Qual.	SES Level	Locus of Control	Tempera. Type Mom	Develop. Status	Tempera. Type Child	$\bar{X}$	SD
PCIS Amount	.72 ****	.74 ****	-.34 ***	.46 ****	-.22 *	.04	-.09	3.35	.56
PCIS Appropriateness		.91 ****	-.40 ***	.64 ****	-.40 ***	.06	-.29 **	3.84	.75
PCIS Quality			-.38 ***	.62 ****	-.44 ****	.09	-.24 *	3.77	.65
SES Level				-.52 ****	.22 *	-.11	.05	3.33	1.04
Locus of Control					-.51 ****	-.05	-.23 *	70.91	13.78
Temp. Type Mother						.15	.29 **	3.10	.51
Developmental Status							-.31 **	60.27	27.97
Temp. Type Child								3.34	.60

* $p < .05$ ** $p < .01$ *** $p < .001$ **** $p < .0001$

TABLE 2

Stepwise Regression using Child Variables to Predict PCIS Scores (Amount, Quality and Appropriateness)

Parent-Child Interaction Amount

Variable	% of Variance Accounted For	Change in Variance	F	P
Temperament Type	1.0		.57	.45
Developmental Status	1.0	-	.01	.91

Parent-Child Interaction Appropriateness

Variable	% of Variance Accounted For	Change in Variance	F	P
Temperament Type	8.4		6.03	.01
Developmental Status	8.4	-	.05	.82

Parent-Child Interaction Quality

Variable	% of Variance Accounted For	Change in Variance	F	P
Temperament Type	5.4		3.40	.07
Developmental Status	5.5	.1	.02	.88

TABLE 3

Stepwise Regression using Maternal Variables to Predict

PCIS Scores (Amount, Quality and Appropriateness)

Parent-Child Interaction Amount

Variable	% of Variance Accounted For	Change in Variance	F	P
Locus of Control	21.6		8.21	.01
SES Level	23.2	1.6	.96	.22
Temperament Type	23.2	-	.22	.96

Parent-Child Interaction Appropriateness

Variable	% of Variance Accounted For	Change in Variance	F	P
Locus of Control	40.5		19.75	.0001
SES Level	41.6	1.1	.26	.26
Temperament Type	42.7	1.1	.21	.21

Parent-Child Interaction Quality

Variable	% of Variance Accounted For	Change in Variance	F	P
Locus of Control	37.9		16.40	.0001
SES Level	40.8	2.9	.74	.39
Temperament Type	41.4	.6	3.67	.05

TABLE 4

Stepwise Regression using Maternal and Child Variables to Predict PCIS Scores (Amount, Quality and Appropriateness)

Parent-Child Interaction Amount

Variable	% of Variance Accounted For	Change in Variance	F	P
Locus of Control	26.1		9.06	.01
SES Level	27.6	1.5	1.14	.29
Temp. Type Mother	27.6	-	.03	.87
Developmental Status	27.6	-	.00	.96
Temp. Type Child	27.6	-	.00	.99

Parent-Child Interaction Appropriateness

Variable	% of Variance Accounted For	Change in Variance	F	P
Locus of Control	36.7		10.95	.001
Temp. Type Mother	40.3	3.6	.38	.54
SES Level	42.1	1.8	1.95	.17
Temp. Type Child	42.6	.5	3.50	.06
Developmental Status	42.7	.1	.13	.72

Parent-Child Interaction Quality

Variable	% of Variance Accounted For	Change in Variance	F	P
Locus of Control	35.5		12.90	.001
Temp. Type Mother	40.0	4.5	1.33	.25
Temp. Type Child	41.1	1.1	.83	.36
SES Level	41.7	.6	.58	.45
Developmental Status	41.8	.1	.07	.80

Discussion

One of the difficulties that arises in intervention is that of predicting the families that will have a positive outcome and those that will not. Demand characteristics of the child will influence that outcome, as will abilities and resources of the family. The findings of this study indicate that one parental characteristic that may have a relatively strong affect on outcome is that of locus of control. These findings suggest that mothers who feel some control over their lives are likely to be involved with their handicapped child in warmer and more accepting ways. During a playful interaction, their involvement is likely to be more closely matched to their child's interest and abilities. The dominant finding has been that, regardless of maternal race and social class, the mother's view of herself, vis a vis the events in her world, is the most potent predictor of her involvement with her handicapped child. In some way, maternal locus of control represents a characteristic that exerts has a powerful influence on maternal behavior. A fruitful line of research might be an examination of the factors that comprise locus of control as well as an exploration of the range of effects that is influenced by this internal attribute.

The relationship between the mother's locus of control and her involvement with her handicapped child during a playful interaction was startling only in its strength - acounting for as much as 41% of the variance in her behavior. This finding supports the hypothesized relationship between a mother's "view of the world" and her behavior during interaction with her child. The strength of this relationship indicates the pervasive influence of the mother's philosophy on her behavior. These findings have important implications for intervention. A characteristics such as the mother's belief in herself as an effective individual is seldom assessed and virtually never targeted as a salient behavior. Within the context of an intervention program, parents are frequently designated the primary therapists, especially for infants and young children. Clearly, the parents' feelings of competence will influence their behavior and, ultimately, the outcome of the intervention. It would appear that there is a need to develop ways in which intervention can help parents increase their feeling of effectence and competence.